

REMARKS

Claims 1, 2 and 4-6 and 8-10 are pending in this application. By this Amendment, claims 1, 2, 5, 6 and 8-10 are amended. No new matter is added. Claim 7 is canceled without prejudice to, or disclaimer of, the subject matter recited in that claim. Reconsideration of this application in view of the above amendments and the following remarks is respectfully requested.

The courtesies extended to Applicant's representative by Examiner Yanchuk and Examiner Ryan at the interview held November 19, 2009, are appreciated. The reasons presented at the interview as warranting favorable action are incorporated into the remarks below, which constitute Applicant's record of the interview.

The Office Action rejects claims 7-9 under 35 U.S.C. §112, second paragraph. The rejection of canceled claim 7 is moot. The rejection of claims 8 and 9 is respectfully traversed.

The Office Action asserts that claims 7-9 "are not positively recited" §112, sixth paragraph, claims "due to detailed limitations included in the claim pertaining to a "valve" as a control mean." As such, the Office Action asserts that claims 7-9 are not prosecuted in light of §112, sixth paragraph. However, as discussed during the interview, there is nothing unclear about further defining the claimed discharge means as a "purge valve" in dependent claim 7. Additionally, reciting a "purge valve" in independent claim 8 does not render other "means" features in independent claim 8 unclear or "not positively recited."

The Office Action's assertions are incorrect for at least the following three reasons. First, there is no requirement to disclose what the discharge means are, any disclosed structure can qualify. Second, according to the doctrine of claim differentiation, the claims should be given their broadest reasonable non-conflicting interpretation. According to the

Office Action's interpretation, claim 7 would be redundant to claim 1. Therefore, claim 7 cannot be interpreted as proposed by the Office Action. Third, the Office Action's interpretation of claim 7 is inconsistent with its interpretation of other "means for" features recited in other claims.

In any event, independent claim 1 is amended to recite: "purge valve" instead of "discharge means," and claim 7 is canceled. Further, as agreed during the interview, the other "means" features recited in claims 8 and 9 properly invoke 35 U.S.C. §112, sixth paragraph. Accordingly, it is respectfully requested that the rejection be withdrawn.

The Office Action rejects claims 1, 2 and 4-10 under 35 U.S.C. §103(a) over Yamamoto et al. (Yamamoto), U.S. Patent Application Publication No. 2003/0077488 A1, in view of Manery, U.S. Patent Application Publication No. 2003/0022031 A1. The rejection is respectfully traversed.

As discussed during the interview, the combination of Yamamoto and Manery would not have rendered obvious a fuel cell system having an abnormality detection means for detecting an operation abnormality of a purge valve, as recited in independent claims 1 and 8, and further does not disclose, and would not have rendered obvious, a method for controlling a fuel cell system having a step of increasing a supplied quantity of oxidizing gas when an operation abnormality of a purge valve is detected, as recited in independent claim 10.

Yamamoto discloses diluting purged hydrogen with air after a purge operation (see paragraph [0080]). However, the purge operation in Yamamoto is not performed as a result of detecting an abnormality in the purge valve 43. Rather, as discussed during the interview, Yamamoto teaches that the ejector and hydrogen pump require purging and that purging occurs during the normal operation of the fuel cell system of Yamamoto (see paragraphs [0002]-[0005]). Therefore, the purging and dilution with air in Yamamoto is not performed due to detecting an abnormality in a discharge means or a purge valve. The Office Action

asserts on page 3 that "Yamamoto teaches discharging based on time intervals [Paragraph 64] and fails to teach a detection of abnormality to induce a purge." However, independent claims 1, 8 and 10 do not recite the detection of an abnormality to induce a purge. Rather, an abnormality of a purge valve is detected and a supply of oxidizing gas is adjusted. As such, the Office Action mischaracterizes the claim language, and bases the rejection on this mischaracterization.

The Office Action relies on Manery as allegedly overcoming the deficiencies of Yamamoto. Manery discloses a fuel cell system for switching electronic monitoring and control circuitry between power sources such as a battery and a fuel stack (see paragraph [0007]). Manery discloses that when a purge cell voltage sensor S4 detects a performance drop below a threshold level in a purge cell portion 36, a microcontroller 40 causes a purge to occur through purge valve 70 (see paragraph [0050]). However, like Yamamoto, the purge operation in Manery occurs as a result of the normal operation of the fuel cell system. As discussed during the interview, Manery does not disclose an operation of the fuel cell system based on a detected abnormality of purge valve 70.

The Examiners assert in the Interview Summary that the "application describes the abnormality state as being when the valve is open." However, this assertion is not entirely correct because the specification discloses that an abnormality is detected when a valve is closed in accordance with a control signal and pressure sensors indicate that there is a leak. Indeed, none of the applied references discloses that an abnormality is detected based on whether a valve is open. Contrary to the Examiners' assertion on page 3 of the Interview Summary, the fuel purge line 43 being "open" is not what causes a purge operation in Yamamoto. Rather, as discussed above, purging occurs during the normal operation of the fuel cell system of Yamamoto (see paragraphs [0002]-[0005]).

In summary, both purge operations for the purge valve in Yamamoto and Manery are processed normally and are not processed as a result of an abnormality detected in the purge valve. In contrast, independent claims 1, 8 and 10 are directed toward, and positively recite, what to do when an operation of the purge valve itself occurs. Therefore, Yamamoto and Manery cannot be combined in the manner suggested by the Office Action to result in Applicant's claim features. Therefore, the combination of Yamamoto and Manery would not have rendered obvious the features of independent claims 1, 8 and 10 for at least these reasons. Further, claims 2, 4-6 and 9 would also not have been rendered obvious by the applied references for at least their dependence on allowable based claims as well as for the separately patentable subject matter these claims recite. Thus, it is respectfully requested that the rejection be withdrawn.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1, 2 and 4-10 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

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Attachment:

Petition for Extension of Time

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